```
Trying 31060000009999...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
 ******** HHHHHHHH SSSSSSSS? ### Status: Signing onto Dialog ********
ENTER PASSWORD:
 ******** HHHHHHHH SSSSSSSS?  ********
### Status: Login successfulWelcome to DIALOG

Dialog level 05.10.03D

Last logoff:  16mar06 16:08:34
Logon file405 20mar06 20:30:58
                *** ANNOUNCEMENTS ***
                        ***
NEW FILES RELEASED
***Regulatory Affairs Journals (File 183)
***Index Chemicus (File 302)
***Inspec (File 202)
                        ***
RELOADS COMPLETED
*** MEDLINE has been reloaded with the 2006 MeSH (Files 154 & 155)
*** The 2005 reload of the CLAIMS files (Files 340, 341, 942)
is now available online.

RESUMED UPDATING
***EDGARPLUS(TM)-Williams Act Filings (File 773)
***EDGARPLUS(TM)-Prospectuses (File 774)
***EDGARPLUS(TM)-Registration Statements (File 775)
***EDGARPLUS(TM)-6K,8K, and 10C Filings (File 776)
***EDGARPLUS(TM)-10-K & 20F Filings (File 778)
***EDGARPLUS(TM)-10-Q Filings (File 779)
***EDGARPLUS(TM)-Proxy Statements (File 780)
                        ***
Chemical Structure Searching now available in Prous Science Drug
Data Report (F452), Prous Science Drugs of the Future (F453),
IMS R&D Focus (F445/955), Pharmaprojects (F128/928), Beilstein
Facts (F390), Derwent Chemistry Resource (F355) and Index Chemicus
(File 302).
                        ***
 >>>For the latest news about Dialog products, services, content<<<
 >>>and events, please visit What's New from Dialog at <<<
 >>>http://www.dialog.com/whatsnew/.  You can find news about<<<
 >>>a specific database by entering HELP NEWS <file number>.<<<
* * *
SYSTEM:HOME
Cost is in DialUnits
Menu System II: D2 version 1.7.9 term=ASCII
                      *** DIALOG HOMEBASE(SM) Main Menu ***

 Information:
  1.  Announcements (new files, reloads, etc.)
  2.  Database, Rates, & Command Descriptions
  3.  Help in Choosing Databases for Your Topic
  4.  Customer Services (telephone assistance, training, seminars, etc.)
  5.  Product Descriptions

 Connections:
  6.  DIALOG(R) Document Delivery
  7.  Data Star(R)
```

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/H = Help /L = Logoff /NOMENU = Command Mode

Enter an option number to view information or to connect to an online service. Enter a BEGIN command plus a file number to search a database (e.g., B1 for ERIC).
?
Terminal set to DLINK
*** DIALOG HOMEBASE(SM) Main Menu ***

Information:
1. Announcements (new files, reloads, etc.)
2. Database, Rates, & Command Descriptions
3. Help in Choosing Databases for Your Topic
4. Customer Services (telephone assistance, training, seminars, etc.)
5. Product Descriptions

Connections:
6. DIALOG(R) Document Delivery
7. Data Star(R)

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/H = Help /L = Logoff /NOMENU = Command Mode

Enter an option number to view information or to connect to an online service. Enter a BEGIN command plus a file number to search a database (e.g., B1 for ERIC).
? b 155 biosci medicine 399

>>> 44 is unauthorized
>>> 76 is unauthorized
>>> 138 is unauthorized
>>>3 of the specified files are not available
20mar06 10:31:10 User276629 Session D211.1
$0.00 0.213 DialUnits FileHomeBase
$0.00 Estimated cost FileHomeBase
$0.05 TELNET
$0.05 Estimated cost this search
$0.05 Estimated total session cost 0.213 DialUnits

SYSTEM:OS - DIALOG OneSearch
File 155:MEDLINE(R) 1951-2006/Mar 10
(c) format only 2006 Dialog
***File 155: Medline has been reloaded. Some accession numbers** have changed.
File 5:Biosis Previews(R) 1969-2006/Mar W2
(c) 2006 BIOSIS
File 24:CSA Life Sciences Abstracts 1966-2006/Jan
(c) 2006 CSA.
File 28:Oceanic Abstracts 1966-2006/Jan
(c) 2006 CSA.
File 34:SciSearch(R) Cited Ref Sci 1990-2006/Mar W2
(c) 2006 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2006/Feb
(c) 2006 ProQuest Info&Learning
File 40:Enviroline(R) 1975-2005/Dec
File 41:Pollution Abstracts 1966-2006/Jan
(c) 2006 CSA.
File 50:CAB Abstracts 1972-2006/Feb
(c) 2006 CAB International
File 65:Inside Conferences 1993-2006/Mar 17
(c) 2006 BLDSC all rts. reserv.
File 71:ELSEVIER BIOBASE 1994-2006/Mar W3
(c) 2006 Elsevier Science B.V.
File 73:EMBASE 1974-2006/Mar 20
(c) 2006 Elsevier Science B.V.
File 91:MANTIS(TM) 1880-2006/Feb
2006 (c) Action Potential
File 94:JICST-EPlus 1985-2006/Dec W4
(c)2006 Japan Science and Tech Corp(JST)
File 98:General Sci Abs 1984-2004/Dec
(c) 2005 The HW Wilson Co.
File 110:WasteInfo 1974-2002/Jul
(c) 2002 AEA Techn Env.
***File 110: This file is closed (no updates)**
File 135:NewsRx Weekly Reports 1995-2006/Mar W2
(c) 2006 NewsRx
***File 135: Please see HELP NEWS135 for information on select**
journal titles.
File 136:BioEngineering Abstracts 1966-2006/Jan
(c) 2006 CSA.
File 143:Biol. & Agric. Index 1983-2006/Feb
(c) 2006 The HW Wilson Co
File 144:Pascal 1973-2006/Feb W4
(c) 2006 INIST/CNRS
File 164:Allied & Complementary Medicine 1984-2006/Mar
(c) 2006 BLHCIS
File 172:EMBASE Alert 2006/Mar 20
(c) 2006 Elsevier Science B.V.
File 185:Zoological Record Online(R) 1978-2006/Mar
(c) 2006 BIOSIS
File 357:Derwent Biotech Res. 1982-2006/Mar W2
(c) 2006 Thomson Derwent & ISI
File 369:New Scientist 1994-2006/Aug W4
(c) 2006 Reed Business Information Ltd.
File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS
***File 370: This file is closed (no updates). Use File 47 for more current**
information.
File 391:Beilstein Reactions 2005/Q3
(c) 2005 Beilstein GmbH
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 467:ExtraMED(tm) 2000/Dec
(c) 2001 Informania Ltd.
***File 467: F467 will close on February 1, 2006.** 7.
File 149:TGG Health&Wellness DB(SM) 1976-2006/Feb W4
(c) 2006 The Gale Group
File 156:ToxFile 1965-2006/Mar W2
(c) format only 2006 Dialog
***File 156: ToxFile has resumed updating with UD20051205.**
File 159:Cancerlit 1975-2002/Oct

(c) format only 2002 Dialog
*File 159: Cancerlit is no longer updating.
Please see HELP NEWS159.
File 162:Global Health 1983-2006/Feb
(c) 2006 CAB International
File 266:FEDRIP 2005/Dec
Comp & dist by NTIS, Intl Copyright All Rights Res
File 399:CA SEARCH(R) 1967-2006/UD=14412
(c) 2006 American Chemical Society
*File 399: Use is subject to the terms of your user/customer agreement.
IPCR/8 classification codes now searchable as IC=. See HELP NEWSIPCR.
File 444:New England Journal of Med. 1985-2006/Mar W1
(c) 2006 Mass. Med. Soc.

```
      Set   Items   Description
      ---   -----   -----------
? s au=((Weis, W.?) or (weis W?) or (weis W.I.) or (weis, W.I.))
             48   AU=WEIS, W.?
            548   AU=WEIS W?
             99   AU=WEIS W.I.
              0   AU=WEIS, W.I.
      S1     596   AU=((WEIS, W.?) OR (WEIS W?) OR (WEIS W.I.) OR (WEIS,
                   W.I.))
? s s1 and beta-catenin
            596   S1
          12296   BETA-CATENIN
      S2     33   S1 AND BETA-CATENIN
? rd

>>>Duplicate detection is not supported for File 391.

>>>Records from unsupported files will be retained in the RD set.
      S3     19   RD  (unique items)
? s s3 and py<=1998
Processing
Processed  10 of  36 files ...
Processing
Processing
Processed  20 of  36 files ...
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
Processing
Processed  30 of  36 files ...
Completed processing all files
             19   S3
      100004928   PY<=1998
      S4      2   S3 AND PY<=1998
? t s4/medium/all

 4/3/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0011113592   BIOSIS NO.: 199799747652
Three-dimensional structure of the armadillo repeat region of beta-catenin
AUTHOR: Huber Andrew H; Nelson W James;  Weis William I  (Reprint
AUTHOR ADDRESS: Dep. Structural Biol., Stanford Univ. Sch. Med., Stanford,
  CA 94305, USA**USA
JOURNAL: Cell  90 (5): p871-882 1997  1997
```

ISSN: 0092-8674
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

**4/3/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0011086918 BIOSIS NO.: 199799720978
**Structural analysis of the Armadillo repeat region of beta-catenin and its interactions with cadherins**
AUTHOR: Huber Andrew H; Nelson W James; **Weis William I**
AUTHOR ADDRESS: Stanford Univ. Sch. Med., Stanford, CA, USA**USA
JOURNAL: FASEB Journal 11 (9): pA1286 1997 **1997**
CONFERENCE/MEETING: 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting of the American Society for Biochemistry and Molecular Biology San Francisco, California, USA August 24-29, 1997; 19970824
ISSN: 0892-6638
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English
? t s4/full/2

**4/9/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0011086918 BIOSIS NO.: 199799720978
**Structural analysis of the Armadillo repeat region of beta-catenin and its interactions with cadherins**
AUTHOR: Huber Andrew H; Nelson W James; **Weis William I**
AUTHOR ADDRESS: Stanford Univ. Sch. Med., Stanford, CA, USA**USA
JOURNAL: FASEB Journal 11 (9): pA1286 1997 **1997**
CONFERENCE/MEETING: 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting of the American Society for Biochemistry and Molecular Biology San Francisco, California, USA August 24-29, 1997; 19970824
ISSN: 0892-6638
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Development; Genetics; Membranes--Cell Biology; Metabolism; Molecular Genetics--Biochemistry and Molecular Biophysics; Physiology; Tumor Biology
BIOSYSTEMATIC NAMES: Diptera--Insecta, Arthropoda, Invertebrata, Animalia
ORGANISMS: Drosophila (Diptera)
COMMON TAXONOMIC TERMS: Animals; Arthropods; Insects; Invertebrates
MISCELLANEOUS TERMS: ADENOMATOUS POLYPOSIS COLI PROTEIN; ADHERENS JUNCTIONS; ALPHA-CATENIN; APC PROTEIN; ARMADILLO REPEAT REGION; **BETA-CATENIN** ; BIOCHEMISTRY AND BIOPHYSICS; CADHERIN-ASSOCIATED FUNCTIONS; CADHERINS; CELL FATE CHOICE; EMBRYO; EMBRYOGENESIS; FILAMENTOUS ACTIN; INTERACTION; LEF-1/TCF TRANSCRIPTION FACTOR FAMILY MEMBER; STRUCTURE; TRANSCRIPTION FACTOR; TUMOR SUPPRESSOR GENE PRODUCT; Meeting Abstract

```
CONCEPT CODES:
  00520 General biology - Symposia, transactions and proceedings
  02506 Cytology - Animal
  03506 Genetics - Animal
  10064 Biochemistry studies - Proteins, peptides and amino acids
  10068 Biochemistry studies - Carbohydrates
  10300 Replication, transcription, translation
  10506 Biophysics - Molecular properties and macromolecules
  10508 Biophysics - Membrane phenomena
  13004 Metabolism - Carbohydrates
  13012 Metabolism - Proteins, peptides and amino acids
  24006 Neoplasms - Biochemistry
  24007 Neoplasms - Carcinogens and carcinogenesis
  25502 Development and Embryology - General and descriptive
  25508 Development and Embryology - Morphogenesis
  64076 Invertebrata: comparative, experimental morphology, physiology and
            pathology - Insecta: physiology
BIOSYSTEMATIC CODES:
  75314 Diptera
? s beta-catenin
      S5   12296  BETA-CATENIN
? s s5 and (conductin or axin)
           12296  S5
             265  CONDUCTIN
            2818  AXIN
      S6     627  S5 AND (CONDUCTIN OR AXIN)
? rd

>>>Duplicate detection is not supported for File 391.

>>>Records from unsupported files will be retained in the RD set.
      S7     423  RD  (unique items)
? s s7 and py<=1999
Processing
Processed  10 of  36 files ...
Processing
Processed  20 of  36 files ...
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
Processing
Processed  30 of  36 files ...
Completed processing all files
            423  S7
      105586270  PY<=1999
      S8     65  S7 AND PY<=1999
? s s8 and (hydrophobic pocket$)
             65  S8
              0  HYDROPHOBIC POCKET$
      S9      0  S8 AND (HYDROPHOBIC POCKET$)
? s s8 and ((hydrophobic pocket) or (hydrophobic pockets))
             65  S8
            138  HYDROPHOBIC POCKET
              6  HYDROPHOBIC POCKETS
     S10      0  S8 AND ((HYDROPHOBIC POCKET) OR (HYDROPHOBIC POCKETS))
? s s8 and assay
             65  S8
        2362325  ASSAY
     S11      5  S8 AND ASSAY
? t s11/medium/all
```

**11/3/1 (Item 1 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0012330519 BIOSIS NO.: 200000048832
**A GSK3beta phosphorylation site in Axin modulates interaction with beta-catenin and Tcf-mediated gene expression**
AUTHOR: Jho Eek-hoon; Lomvardas Stavros; Costantini Frank (Reprint)
AUTHOR ADDRESS: Department of Genetics and Development, College of Physicians and Surgeons, Columbia University, 701 West 168th Street, New York, NY, USA**USA
JOURNAL: Biochemical and Biophysical Research Communications 266 (1): p 28-35 Dec. 9, 1999 **1999**
MEDIUM: print
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

**11/3/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0011874525 BIOSIS NO.: 199900134185
**Identification of a domain of axin that binds to the serine/threonine protein phosphatase 2A and a self-binding domain**
AUTHOR: Hsu Wei; Zeng Li; Costantini Frank (Reprint)
AUTHOR ADDRESS: Dep. Genet. Dev., Coll. Phys. Surg., Columbia Univ., 701 W. 168th St., New York, NY 10032, USA**USA
JOURNAL: Journal of Biological Chemistry 274 (6): p3439-3445 Feb. 5, 1999 **1999**
MEDIUM: print
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

**11/3/3 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 Inst for Sci Info. All rts. reserv.

08129326 Genuine Article#: 249XU No. References: 38
**Title: Human frizzled 1 interacts with transforming Wnts to transduce a TCF dependent transcriptional response**
Author(s): Gazit A; Yaniv A; Bafico A; Pramila T; Igarashi M; Kitajewski J; Aaronson SA (REPRINT)
Corporate Source: CUNY MT SINAI SCH MED,DERALD H RUTTENBERG CANC CTR, BOX 1130, 1 GUSTAVE L LEVY PL/NEW YORK//NY/10029 (REPRINT); CUNY MT SINAI SCH MED,DERALD H RUTTENBERG CANC CTR/NEW YORK//NY/10029; TEL AVIV UNIV,SACKLER SCH MED, DEPT HUMAN MICROBIOL/IL-69978 TEL AVIV//ISRAEL/; COLUMBIA UNIV COLL PHYS & SURG,DEPT PATHOL/NEW YORK//NY/10032; COLUMBIA UNIV COLL PHYS & SURG,CTR REPROD SCI/NEW YORK//NY/10032
Journal: ONCOGENE, **1999** , V18, N44 (OCT 28), P5959-5966
ISSN: 0950-9232 Publication date: 19991028
Publisher: STOCKTON PRESS, HOUNDMILLS, BASINGSTOKE RG21 6XS, HAMPSHIRE, ENGLAND

Language: English  Document Type: ARTICLE  (ABSTRACT AVAILABLE)

**11/3/4  (Item 2 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 Inst for Sci Info. All rts. reserv.

07726565  Genuine Article#: 201KK  No. References: 45
**Title: Interaction of Axin and Dvl-2 proteins regulates Dvl-2-stimulated TCF-dependent transcription**
Author(s): Smalley MJ; Sara E; Paterson H; Naylor S; Cook D; Jayatilake H; Fryer LG; Hutchinson L (REPRINT) ; Fry MJ; Dale TC
Corporate Source: INST CANC RES,SIGNAL TRANSDUCT TEAM, SECT CELL BIOL & EXPT PATHOL/LONDON SW3 6JB//ENGLAND/ (REPRINT); INST CANC RES,DEV BIOL TEAM, SECT CELL BIOL & EXPT PATHOL/LONDON SW3 6JB//ENGLAND/; INST CANC RES,SIGNAL TRANSDUCT TEAM, SECT CELL BIOL & EXPT PATHOL/LONDON SW3 6JB//ENGLAND/; INST CANC RES,CHESTER BEATTY LABS, SECT CELL & MOL BIOL/LONDON SW3 6JB//ENGLAND/; OXFORD BIOMEDICA,/OXFORD OX4 4GA//ENGLAND/
Journal: EMBO JOURNAL, **1999** , V18, N10 (MAY 17), P2823-2835
ISSN: 0261-4189  Publication date: 19990517
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND
Language: English  Document Type: ARTICLE  (ABSTRACT AVAILABLE)

**11/3/5  (Item 1 from file: 357)**
DIALOG(R)File 357:Derwent Biotech Res.
(c) 2006 Thomson Derwent & ISI. All rts. reserv.

0242422  DBR Accession No.: 1999-13187  PATENT
**Agents for treating human diseases, particularly cancer, modulate interaction of beta-catenin with transcription factors or tumor suppressor gene products - protein capable of inhibiting or promoting beta-catenin interaction, produced by protein engineering, used in tumor therapy and organ growth stimulation**
AUTHOR: Birchmeier W;  von Kries J P
CORPORATE SOURCE: Berlin, Germany.
PATENT ASSIGNEE: Max-Delbrueck-Cent.Mol.Med.Berlin  **1999**
PATENT NUMBER: DE 19909251  PATENT DATE: 19990826  WPI ACCESSION NO.: 1999-470389  (1940)
PRIORITY APPLIC. NO.: DE 1009251  APPLIC. DATE: 19990222
NATIONAL APPLIC. NO.: DE 1009251  APPLIC. DATE: 19990222
LANGUAGE: German
? t/s11/full/2
>>>'11' valid only in keyword format
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
? ds

| Set | Items | Description |
|---|---|---|
| S1 | 596 | AU=((WEIS, W.?) OR (WEIS W?) OR (WEIS W.I.) OR (WEIS, W.I.-)) |
| S2 | 33 | S1 AND BETA-CATENIN |
| S3 | 19 | RD  (unique items) |
| S4 | 2 | S3 AND PY<=1998 |
| S5 | 12296 | BETA-CATENIN |
| S6 | 627 | S5 AND (CONDUCTIN OR AXIN) |
| S7 | 423 | RD  (unique items) |
| S8 | 65 | S7 AND PY<=1999 |

```
S9             0   S8 AND (HYDROPHOBIC POCKET$)
S10            0   S8 AND ((HYDROPHOBIC POCKET) OR (HYDROPHOBIC POCKETS))
S11            5   S8 AND ASSAY
? s s8 and GRASP
                65  S8
             30980  GRASP
      S12       0  S8 AND GRASP
? s s8 and computer
                65  S8
           2783095  COMPUTER
      S13       0  S8 AND COMPUTER
? s s8 and (three-dimensional)
                65  S8
             23830  THREE-DIMENSIONAL
      S14       0  S8 AND (THREE-DIMENSIONAL)
? t s8/ti/all
>>>No matching display code(s) found in file(s): 391
```

**8/TI/1 (Item 1 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Regulation of beta-catenin signaling by the B56 subunit of protein phosphatase 2A**

**8/TI/2 (Item 2 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Membrane-anchored plakoglobins have multiple mechanisms of action in Wnt signaling**

**8/TI/3 (Item 3 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**The deubiquitinating enzyme Fam interacts with and stabilizes beta-catenin**

**8/TI/4 (Item 4 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**The control of beta-catenin and TCF during embryonic development and cancer**

**8/TI/5 (Item 5 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Modulation of Wnt signaling by** Axin **and Axil**

**8/TI/6 (Item 6 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Signaling through beta-catenin and Lef/Tcf**

**8/TI/7 (Item 7 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

APC: The plot thickens

8/TI/8 (Item 8 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

A GSK3beta phosphorylation site in Axin modulates interaction with beta-catenin and Tcf-mediated gene expression

8/TI/9 (Item 9 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Roles of Axin in the Wnt signalling pathway

8/TI/10 (Item 10 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Identification and characterization of E-APC, a novel Drosophila homologue of the tumour suppressor APC

8/TI/11 (Item 11 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Casein kinase Iepsilon in the Wnt pathway: Regulation of beta-catenin function

8/TI/12 (Item 12 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axin directly interacts with plakoglobin and regulates its stability

8/TI/13 (Item 13 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

A GSK3-binding peptide from FRAT1 selectively inhibits the GSK3-catalysed phosphorylation of Axin and beta-catenin

8/TI/14 (Item 14 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Nuclear localization and formation of beta-catenin-lymphoid enhancer factor 1 complexes are not sufficient for activation of gene expression

8/TI/15 (Item 15 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

DIX domains of Dvl and Axin are necessary for protein interactions and their ability to regulate beta-catenin stability

8/TI/16 (Item 16 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Functional domains of** Axin **. Importance of the C terminus as an oligomerization domain**

8/TI/17 (Item 17 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**beta-Trcp couples beta-catenin phosphorylation-degradation and regulates Xenopus axis formation**

8/TI/18 (Item 18 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Domains of** axin **involved in protein-protein interactions, Wnt pathway inhibition, and intracellular localization**

8/TI/19 (Item 19 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Role of beta-catenin/armadillo in cell adhesion and signal transduction**

8/TI/20 (Item 20 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**The cyclin D1 gene is a target of the beta-catenin/LEF-1 pathway**

8/TI/21 (Item 21 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**An F-box protein, FWD1, mediates ubiquitin-dependent proteolysis of beta-catenin**

8/TI/22 (Item 22 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Negative regulation of wingless signaling by D-** Axin **, a Drosophila** Homolog **of** Axin

8/TI/23 (Item 23 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Frequent nuclear/cytoplasmic localization of beta-catenin without exon 3 mutations in malignant melanoma**

8/TI/24 (Item 24 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**APC protein: Protein interactions and cellular functions**

**8/TI/25 (Item 25 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axin **prevents Wnt-3a-induced accumulation of beta-catenin**

**8/TI/26 (Item 26 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Identification of a domain of** axin **that binds to the serine/threonine protein phosphatase 2A and a self-binding domain**

**8/TI/27 (Item 27 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Identification of APC2, a homologue of the adenomatous polyposis coli tumour suppressor**

**8/TI/28 (Item 28 from** file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Differential molecular interactions of BETA-catenin and pakoglobin in adhesion, signaling and cancer**

**8/TI/29 (Item 29 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axin **, an inhibitor of the Wnt signalling pathway, interacts with beta-catenin, GSK-3beta and APC and reduces the beta-catenin level**

**8/TI/30 (Item 30 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Downregulation of beta-catenin by human** Axin **and its association with the APC tumor suppressor, beta-catenin and GSK3beta**

**8/TI/31 (Item 31 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

**Axis determination of Xenopus involves biochemical interactions of** axin **, glycogen synthase kinase 3 and beta-catenin**

**8/TI/32 (Item 32 from file: 5)**
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axin **, a negative regulator of the Wnt signaling pathway, directly interacts with adenomatous polyposis coli and regulates the stabilization**

of beta-catenin

8/TI/33 (Item 33 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Functional interaction of an axin homolog, conductin , with beta-catenin, APC and GSK3beta

8/TI/34 (Item 34 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axil, a member of the axin family, interacts with both glycogen synthase kinase 3beta and beta-catenin and inhibits axis formation of Xenopus embryos

8/TI/35 (Item 35 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Briding of beta-catenin and glycogen synthase kinase-3beta by axin and inhibition of beta-catenin-mediated transcription

8/TI/36 (Item 36 from file: 5)
DIALOG(R)File 5:(c) 2006 BIOSIS. All rts. reserv.

Axin , a negative regulator of the Wnt signaling pathway, forms a complex with GSK-3beta and beta-catenin and promotes GSK-3beta-dependent phosphorylation of beta-catenin

8/TI/37 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Adenomatous polyposis coil protein (APC)-independent regulation of beta-catenin/Tcf-4 mediated transcription in intestinal cells

8/TI/38 (Item 2 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Dysregulated expression of beta-catenin marks early neoplastic change in Apc mutant mice, but not all lesions arising in Msh2 deficient mice

8/TI/39 (Item 3 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Axin forms a complex with MEKK1 and activates c-Jun NH2-terminal kinase/stress-activated protein kinase through domains distinct from Wnt signaling

8/TI/40 (Item 4 from file: 34)

DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: beta-catenin signaling and cancer**

**8/TI/41 (Item 5 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Relationship of vegetal cortical dorsal factors in the Xenopus egg with the Wnt/beta-catenin signaling pathway**

**8/TI/42 (Item 6 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Divergence of RGS proteins: evidence for the existence of six mammalian RGS subfamilies**

**8/TI/43 (Item 7 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Casein kinase I epsilon in the Wnt pathway: Regulation of beta-catenin function**

**8/TI/44 (Item 8 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Human frizzled 1 interacts with transforming Wnts to transduce a TCF dependent transcriptional response**

**8/TI/45 (Item 9 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Suppression of glycogen synthase kinase activity is not sufficient for leukemia enhancer factor-1 activation**

**8/TI/46 (Item 10 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Radiation hybrid mapping of genes in the lithium-sensitive Wnt signaling pathway**

**8/TI/47 (Item 11 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: A new Drosophila APC homologue associated with adhesive zones of epithelial cells**

**8/TI/48 (Item 12 from file: 34)**
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: The APC protein binds to A/T rich DNA sequences

8/TI/49 (Item 13 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: A Drosophila Axin homolog, Daxin, inhibits Wnt signaling

8/TI/50 (Item 14 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Up-regulation of macrophage wnt gene expression in adenoma-carcinoma progression of human colorectal cancer

8/TI/51 (Item 15 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Regulation of glycogen synthase kinase 3 beta and downstream Wnt signaling by Axin

8/TI/52 (Item 16 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Axin and Frat1 interact with DvI and GSK, bridging Dvl to GSK in Wnt-mediated regulation of LEF-1

8/TI/53 (Item 17 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Regulation of the protein kinase activity of Shaggy(Zeste-white3) by components of the wingless pathway in Drosophila cells and embryos

8/TI/54 (Item 18 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Wnt-induced dephosphorylation of Axin releases beta-catenin from the Axin complex

8/TI/55 (Item 19 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Neoplastic transformation of RK3E by mutant beta-catenin requires deregulation of Tcf/Lef transcription but not activation of c-myc expression

8/TI/56 (Item 20 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

Title: Interaction of Axin and Dvl-2 proteins regulates Dvl-2-stimulated TCF-dependent transcription

8/TI/57 (Item 21 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Phosphorylation of Axin , a Wnt signal negative regulator, by glycogen synthase kinase-3 beta regulates its stability**

8/TI/58 (Item 22 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Cloning of the human homolog of conductin (AXIN2), a gene mapping to chromosome 17q23-q24**

8/TI/59 (Item 23 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: beta-TrCP is a negative regulator of the Wnt/beta-catenin signaling pathway and dorsal axis formation in Xenopus embryos**

8/TI/60 (Item 24 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Differential molecular interactions of beta-catenin and plakoglobin in adhesion, signaling and cancer**

8/TI/61 (Item 25 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Axis determination in Xenopus involves** biochemical interactions of axin , **glycogen synthase kinase 3 and beta-catenin**

8/TI/62 (Item 26 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Communication -** Axin , **a negative regulator of the Wnt signaling pathway, directly interacts with adenomatous polyposis coli and regulates the stabilization of beta-catenin**

8/TI/63 (Item 27 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: Bridging of beta-catenin and glycogen synthase kinase-3 beta by** Axin **and inhibition of beta-catenin-mediated transcription**

8/TI/64 (Item 28 from file: 34)
DIALOG(R)File 34:(c) 2006 Inst for Sci Info. All rts. reserv.

**Title: The mouse fused locus encodes** Axin , **an inhibitor of the Wnt signaling pathway that regulates embryonic axis formation**

**8/TI/65 (Item 1 from file: 357)**
DIALOG(R)File 357:(c) 2006 Thomson Derwent & ISI. All rts. reserv.

**Agents for treating human diseases, particularly cancer, modulate interaction of beta-catenin with transcription factors or tumor suppressor gene products - protein capable of inhibiting or promoting beta-catenin interaction, produced by protein engineering, used in tumor therapy and organ growth stimulation**
? t s8/full/40 33 25 19 18 9 6

**8/9/40 (Item 4 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 Inst for Sci Info. All rts. reserv.

08234284 Genuine Article#: 260WJ Number of References: 85
**Title: beta-catenin signaling and cancer**
Author(s): Morin PJ (REPRINT)
Corporate Source: NIA,BIOL CHEM LAB, GERONTOL RES CTR, 5600 NATHAN SHOCK DR/BALTIMORE//MD/21224 (REPRINT); JOHNS HOPKINS MED INST,DEPT PATHOL/BALTIMORE//MD/21287
Journal: BIOESSAYS, **1999** , V21, N12 (DEC), P1021-1030
ISSN: 0265-9247 Publication date: 19991200
Publisher: COMPANY OF BIOLOGISTS LTD, BIDDER BUILDING CAMBRIDGE COMMERCIAL PARK COWLEY RD, CAMBRIDGE CB4 4DL, CAMBS, ENGLAND
Language: English Document Type: REVIEW
Geographic Location: USA
Subfile: CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOLOGY; BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: Since its discovery as a protein associated with the cytoplasmic region of E-cadherin, beta-catenin has been shown to perform two apparently unrelated functions: it has a crucial role in cell-cell adhesion in addition to a signaling role as a component of the Wnt/wg pathway. Wnt/wg signaling results in beta-catenin accumulation and transcriptional activation of specific target genes during development. It is now apparent that deregulation of beta-catenin signaling is an important event in the genesis of a number of malignancies, such as colon cancer, melanoma, hepatocellular carcinoma, ovarian cancer, endometrial cancer, medulloblastoma pilomatricomas, and prostate cancer. beta-catenin mutations appear to be a crucial step in the progression of a subset of these cancers, suggesting an important role in the control of cellular proliferation or cell death. The APC/beta-catenin pathway is highly regulated and includes players such as GSK3-beta, CBP, Groucho, **Axin** , **Conductin** , and TCF, c-MYC and cyclin D1 were recently identified as a key transcriptional targets of this pathway and additional targets are likely to emerge. BioEssays 21:1021-1030, 1999. Published 1999 John Wiley & Sons, Inc.dagger
Identifiers--KeyWord Plus(R): TUMOR-SUPPRESSOR PROTEIN; ADENOMATOUS POLYPOSIS-COLI; UBIQUITIN-PROTEASOME PATHWAY; TRANSCRIPTION FACTOR LEF-1; CELL-ADHESION MOLECULE; XENOPUS EMBRYOS; GENE-PRODUCT; HEPATOCELLULAR CARCINOMAS; FUNCTIONAL INTERACTION; NUCLEAR-LOCALIZATION
Cited References:
ABERLE H, 1997, V16, P3797, EMBO J
AHMED Y, 1998, P1171, CELL
BAEG GH, 1995, V14, P5618, EMBO J
BALKOVETZ DF, 1997, V272, P3471, J BIOL CHEM
BEHRENS J, 1996, V382, P638, NATURE
BEHRENS J, 1998, V280, P596, SCIENCE

CAVALLO RA, 1998, V395, P604, NATURE
CHAN EF, 1999, V21, P410, NAT GENET
CHEN ZJ, 1995, V9, P1586, GENE DEV
CLEVERS H, 1997, V13, P485, TRENDS GENET
DELACOSTE A, 1998, V95, P8847, P NATL ACAD SCI USA
DUDEK H, 1997, V275, P661, SCIENCE
FAGOTTO F, 1998, V8, P181, CURR BIOL
FUKUCHI T, 1998, V58, P3526, CANCER RES
FUNAYAMA N, 1995, V128, P959, J CELL BIOL
GAT U, 1998, V95, P605, CELL
GUMBINER BM, 1995, V7, P634, CURR OPIN CELL BIOL
HART M, 1999, V9, P207, CURR BIOL
HE TC, 1998, V281, P1509, SCIENCE
HEMMINGS BA, 1997, V275, P628, SCIENCE
HSU SC, 1998, V18, P4807, MOL CELL BIOL
HUBER AH, 1997, V90, P871, CELL
HUBER O, 1996, V59, P3, MECH DEVELOP
IKEDA S, 1998, V17, P1371, EMBO J
ILYAS M, 1997, V94, P10330, P NATL ACAD SCI USA
ITOH H, 1993, V8, P87, INT J COLORECTAL DIS
IWAO K, 1998, V58, P1021, CANCER RES
JIANG J, 1998, V391, P493, NATURE
JONKERS J, 1997, V16, P441, EMBO J
KANAI Y, 1995, V208, P1067, BIOCHEM BIOPH RES CO
KENNEDY SG, 1997, V11, P701, GENE DEV
KIM E, 1999, V274, P4947, J BIOL CHEM
KINZLER KW, 1996, V87, P159, CELL
KISHIDA S, 1998, V273, P10823, J BIOL CHEM
KLINE RC, 1990, V39, P337, GYNECOL ONCOL
KOCH A, 1999, V59, P269, CANCER RES
KORINEK V, 1998, V19, P379, NAT GENET
KORINEK V, 1997, V275, P1784, SCIENCE
LEVANON D, 1998, V95, P11590, P NATL ACAD SCI USA
MANN B, 1999, V96, P1603, P NATL ACAD SCI USA
MATSUMINE A, 1996, V272, P1020, SCIENCE
MCCREA PD, 1991, V254, P1359, SCIENCE
MIYOSHI Y, 1998, V58, P2524, CANCER RES
MOLENAAR M, 1996, V86, P391, CELL
MOON RT, 1998, V20, P536, BIOESSAYS
MORIN PJ, 1996, V93, P7950, P NATL ACAD SCI USA
MORIN PJ, 1997, V275, P1787, SCIENCE
MUHUA L, 1998, V393, P487, NATURE
MULLER T, 1999, V274, P10173, J BIOL CHEM
MUNEMITSU S, 1995, V92, P3046, P NATL ACAD SCI USA
MURAOKA M, 1996, V12, P1565, ONCOGENE
MURAYAMA M, 1998, V433, P73, FEBS LETT
NUSSE R, 1982, V31, P99, CELL
NUSSE R, 1997, V89, P321, CELL
ORFORD K, 1997, V272, P24735, J BIOL CHEM
OZAWA M, 1989, V8, P1711, EMBO J
OZAWA M, 1990, V87, P4246, P NATL ACAD SCI USA
PALACIOS J, 1998, V58, P1344, CANCER RES
PAPKOFF J, 1998, V247, P851, BIOCHEM BIOPH RES CO
PAPKOFF J, 1996, V16, P2128, MOL CELL BIOL
PEIFER M, 1995, V5, P224, TRENDS CELL BIOL
POLAKIS P, 1997, V1332, PF127, BIOCHIM BIOPHYS ACTA
ROBBINS PF, 1996, V183, P1185, J EXP MED
ROOSE J, 1998, V395, P608, NATURE
RUBINFELD B, 1997, V57, P4624, CANCER RES
RUBINFELD B, 1993, V262, P1731, SCIENCE

RUBINFELD B, 1996, V272, P1023, SCIENCE
RUBINFELD B, 1997, V275, P1790, SCIENCE
SALOMON D, 1997, V139, P1325, J CELL BIOL
SAMOWITZ WS, 1999, V59, P1442, CANCER RES
SEELING JM, 1999, V283, P2089, SCIENCE
SPARKS AB, 1998, V58, P1130, CANCER RES
SU LK, 1995, V55, P2972, CANCER RES
SU LK, 1993, V262, P1734, SCIENCE
TETSU O, 1999, V398, P422, NATURE
VANDEWETERING M, 1997, V88, P789, CELL
VOELLER HJ, 1998, V58, P2520, CANCER RES
WALTZER L, 1998, V395, P521, NATURE
WHITEHEAD I, 1995, V15, P704, MOL CELL BIOL
WINSTON JT, 1999, V13, P270, GENE DEV
WONG MH, 1998, V141, P765, J CELL BIOL
YAMAMOTO H, 1998, V18, P2867, MOL CELL BIOL
YOST C, 1998, V93, P1031, CELL
YOST C, 1996, V10, P1443, GENE DEV
ZURAWEL RH, 1998, V58, P896, CANCER RES

**8/9/33 (Item 33 from file: 5)**

DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.

0011457577 BIOSIS NO.: 199800251824

**Functional interaction of an axin homolog, conductin , with beta-catenin, APC and GSK3beta**

AUTHOR: Behrens Juergen; Jerchow Boris-Alexander; Wuertele Martin; Grimm Jan; Asbrand Christian; Wirtz Ralph; Kuehl Michael; Wedlich Doris; Birchmeier Walter (Reprint)
AUTHOR ADDRESS: Max Delbrueck Cent. Mol. Med., Robert-Roessle-Strasse 10, 13122 Berlin, Germany**Germany

JOURNAL: Science (Washington D C) 280 (5363): p596-599 April 24, 1998
**1998**
MEDIUM: print
ISSN: 0036-8075
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Control of stability of beta-catenin is central in the wnt signaling pathway. Here, the protein **conductin** was found to form a complex with both beta-catenin and the tumor suppressor gene product adenomatous polyposis coli (APC). **Conductin** induced beta-catenin degradation, whereas mutants of **conductin** that were deficient in complex formation stabilized beta-catenin. Fragments of APC that contained a **conductin** -binding domain also blocked beta-catenin degradation. Thus, **conductin** is a component of the multiprotein complex that directs beta-catenin to degradation and is located downstream of APC. In Xenopus embryos, **conductin** interfered with wnt-induced axis formation.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Salientia--Amphibia, Vertebrata, Chordata, Animalia
ORGANISMS: Xenopus (Salientia)--embryo
COMMON TAXONOMIC TERMS: Amphibians; Animals; Chordates; Nonhuman Vertebrates; Vertebrates

CHEMICALS & BIOCHEMICALS: adenomatous polyposis coli {APC}--tumor suppressor gene product; **beta-catenin** ; **conductin** --analysis, **axin** homolog; GSK3-beta
METHODS & EQUIPMENT: biochemical analysis--analytical method, methodological approach
MISCELLANEOUS TERMS: amino acid sequence
CONCEPT CODES:
10064 Biochemistry studies - Proteins, peptides and amino acids
25502 Development and Embryology - General and descriptive
BIOSYSTEMATIC CODES:
85306 Salientia

**8/9/25 (Item 25 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
(c) 2006 BIOSIS. All rts. reserv.
0011876187 BIOSIS NO.: 199900135847
Axin **prevents Wnt-3a-induced accumulation of beta-catenin**
AUTHOR: Kishida Michiko; Koyama Shinya; Kishida Shosei; Matsubara Kenji; Nakashima Shintaro; Higano Keiichi; Takada Ritsuko; Takada Shinji; Kikuchi Akira (Reprint)
AUTHOR ADDRESS: Dep. Biochem., Hiroshima Univ. Sch. Med., 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan**Japan
JOURNAL: Oncogene 18 (4): p979-985 Jan., 1999 **1999**
MEDIUM: print
ISSN: 0950-9232
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: When **Axin** , a negative regulator of the Wnt signaling pathway, was expressed in COS cells, it coeluted with glycogen synthase kinase-3beta (GSK-3beta), beta-catenin, an adenomatous polyposis coli protein (APC) in a high molecular weight fraction on gel filtration column chromatography. In this fraction. GSK-3beta, beta-catenin, and APC were co-precipitated with **Axin** . Although beta- catenin was detected in the high molecular weight fraction in L cells on gel filtration column chromatography, addition of conditioned medium expressing Wnt3a to the cells increased beta-catenin in the low molecular weight fraction. However, Wnt-3a-dependent accumulation of beta-catenin was greatly inhibited in L cells stably expressing **Axin** . **Axin** also suppressed Wnt-3a-dependent activation of Tcf-4 which binds to beta-catenin and acts as a transcription factor. These results suggest that **Axin** forms a complex with GSK-3beta, beta-catenin, and APC, resulting in the stimulation of the degradation of beta-catenin and that Wnt-3a induces the dissociation of beta-catenin from the **Axin** complex and accumulates catenin.

DESCRIPTORS:
MAJOR CONCEPTS: Cell Biology
BIOSYSTEMATIC NAMES: Cercopithecidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: COS cell line (Cercopithecidae)
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Nonhuman Primates; Primates; Vertebrates
CHEMICALS & BIOCHEMICALS: adenomatous polyposis coli protein {APC}; **axin** ; **beta-catenin** --accumulation, degradation; glycogen synthase kinase-3-beta; Tcf-4--transcription factor

MISCELLANEOUS TERMS: Wnt signaling pathway
CONCEPT CODES:
02506 Cytology - Animal
03506 Genetics - Animal
10060 Biochemistry studies - General
10802 Enzymes - General and comparative studies: coenzymes
24002 Neoplasms - General
BIOSYSTEMATIC CODES:
86205 Cercopithecidae

**8/9/19 (Item 19 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
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0012028632 BIOSIS NO.: 199900288292
**Role of beta-catenin/armadillo in cell adhesion and signal transduction**
AUTHOR: Birchmeier Walter (Reprint)
AUTHOR ADDRESS: Max-Delbrueck-Center for Molecular Medicine, Robert-Roessle-Strasse 10, 13125, Berlin, Germany**Germany
JOURNAL: European Journal of Cell Biology 78 (SUPPL. 49): p2 1999 **1999**
MEDIUM: print
CONFERENCE/MEETING: 23rd Annual Meeting of the German Society for Cell Biology Rostock, Germany March 14-18, 1999; 19990314
SPONSOR: German Society for Cell Biology
ISSN: 0171-9335
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English
DESCRIPTORS:
MAJOR CONCEPTS: Cell Biology; Enzymology--Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: human (Hominidae)
ORGANISMS: PARTS ETC: cell--adhesion
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CHEMICALS & BIOCHEMICALS: **beta-catenin** ; **conductin** ; wnt--signaling; APC; GSK3-beta--serine/threonine kinase
MISCELLANEOUS TERMS: signal transduction; Meeting Abstract; Meeting Abstract
CONCEPT CODES:
02508 Cytology - Human
10060 Biochemistry studies - General
10808 Enzymes - Physiological studies
00520 General biology - Symposia, transactions and proceedings
BIOSYSTEMATIC CODES:
86215 Hominidae

**8/9/18 (Item 18 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
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0012063324 BIOSIS NO.: 199900322984
**Domains of** axin **involved in protein-protein interactions, Wnt pathway inhibition, and intracellular localization**
AUTHOR: Fagotto Francois; Jho Eek-hoon; Zeng Li; Kurth Thomas; Joos Thomas;

Kaufmann Christine; Costantini Frank (Reprint)
AUTHOR ADDRESS: Department of Genetics and Development, College of Physicians and Surgeons, Columbia University, 701 West 168 Street, New York, NY, 10032, USA**USA
JOURNAL: Journal of Cell Biology 145 (4): p741-756 May 17, 1999 **1999**
MEDIUM: print
ISSN: 0021-9525
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: **Axin** was identified as a regulator of embryonic axis induction in vertebrates that inhibits the Wnt signal transduction pathway. Epistasis experiments in frog embryos indicated that **Axin** functioned downstream of glycogen synthase kinase 3beta (GSK3beta) and upstream of beta-catenin, and subsequent studies showed that **Axin** is part of a complex including these two proteins and adenomatous polyposis coli (APC). Here, we examine the role of different **Axin** domains in the effects on axis formation and beta-catenin levels. We find that the regulators of G-protein signaling domain (major APC-binding site) and GSK3beta-binding site are required, whereas the COOH-terminal sequences, including a protein phosphatase 2A binding site and the DIX domain, are not essential. Some forms of **Axin** lacking the beta-catenin binding site can still interact indirectly with beta-catenin and regulate beta-catenin levels and axis formation. Thus in normal embryonic cells, interaction with APC and GSK3beta is critical for the ability of **Axin** to regulate signaling via beta-catenin. Myc-tagged **Axin** is localized in a characteristic pattern of intracellular spots as well as at the plasma membrane. NH2-terminal sequences were required for targeting to either of these sites, whereas COOH-terminal sequences increased localization at the spots. Coexpression of hemagglutinin-tagged Dishevelled (Dsh) revealed strong colocalization with **Axin** , suggesting that Dsh can interact with the **Axin** /APC/GSK3/beta-catenin complex, and may thus modulate its activity.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Development
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISMS: 293 cell line (Hominidae)
ORGANISMS: PARTS ETC: plasma membrane
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CHEMICALS & BIOCHEMICALS: adenomatous polyposis coli; **beta-catenin** ; glycogen synthase kinase 3-beta; **Axin** --COOH-terminal sequences, G-protein signaling domain, Myc-tagged, embryonic axis induction regulator, localization, glycogen synthase kinase 3-beta-binding site ; Dishevelled--hemagglutinin-tagged
MISCELLANEOUS TERMS: dorsal axis formation; protein-protein interactions
CONCEPT CODES:
02508 Cytology - Human
10060 Biochemistry studies - General
10502 Biophysics - General
25502 Development and Embryology - General and descriptive
00532 General biology - Miscellaneous
BIOSYSTEMATIC CODES:
86215 Hominidae

**8/9/9 (Item 9 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
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0012314895 BIOSIS NO.: 200000033208
**Roles of Axin in the Wnt signalling pathway**
AUTHOR: Kikuchi Akira (Reprint)
AUTHOR ADDRESS: Department of Biochemistry, Hiroshima University School of Medicine, 1-2-3, Kasumi, Minami-ku, Hiroshima, 734-8551, Japan**Japan
JOURNAL: Cellular Signalling 11 (11): p777-788 Nov., 1999 **1999**
MEDIUM: print
ISSN: 0898-6568
DOCUMENT TYPE: Article; Literature Review
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The Wnt signalling pathway is conserved in various species from worms to mammals, and plays important roles in development, cellular proliferation, and differentiation. The molecular mechanisms by which the Wnt signal regulates cellular functions are becoming increasingly well understood. Wnt stabilizes cytoplasmic beta-catenin, which stimulates the expression of genes including c-myc, c-jun, fra-1, and cyclin D1. **Axin** , newly recognized as a component of the Wnt signalling pathway, negatively regulates this pathway. Other components of the Wnt signalling pathway, including Dvl, glycogen synthase kinase-3beta, beta-catenin, and adenomatous polyposis coli, interact with **Axin** , and the phosphorylation and stability of beta-catenin are regulated in the **Axin** complex. Thus, **Axin** acts as a scaffold protein in the Wnt signalling pathway, thereby regulating cellular functions.

DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Salientia--Amphibia, Vertebrata, Chordata, Animalia
ORGANISMS: Xenopus (Salientia)--embryo
COMMON TAXONOMIC TERMS: Amphibians; Animals; Chordates; Nonhuman Vertebrates; Vertebrates
CHEMICALS & BIOCHEMICALS: Dvl; Wnt--cellular function regulation, cellular proliferation, development, differentiation, molecular mechanisms, signaling pathway; **axin** --role; **beta-catenin** ; glycogen synthase-3beta; organism c-jun gene; organism c-myc gene; organism cyclin-D1 gene; organism fra-1 gene
CONCEPT CODES:
10060 Biochemistry studies - General
03502 Genetics - General
10802 Enzymes - General and comparative studies: coenzymes
BIOSYSTEMATIC CODES:
85306 Salientia

**8/9/6 (Item 6 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)
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0012357627 BIOSIS NO.: 200000075940
**Signaling through beta-catenin and Lef/Tcf**
AUTHOR: Novak A; Dedhar S (Reprint)
AUTHOR ADDRESS: Department of Biochemistry, Jack Bell Research Centre,

British Columbia Cancer Agency, Vancouver Hospital, University of British Columbia, 2660 Oak Street, Vancouver, BC, Canada**Canada
JOURNAL: CMLS Cellular and Molecular Life Sciences 56 (5-6): p523-537 Oct. 30, 1999 **1999**
MEDIUM: print
ISSN: 1420-682X
DOCUMENT TYPE: Article; Literature Review
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: beta-Catenin plays a structural role in cell adhesion by binding to cadherins at the intracellular surface of the plasma membrane and a signaling role in the cytoplasm as the penultimate downstream mediator of the writ signaling pathway. The ultimate mediator of this pathway is a nuclear complex of beta-catenin acting as a coactivtor with lymphoid enhancer factor/T cell factor (Lef/Tcf) transcription factors to stimulate transcription of a variety of target genes. Signaling through beta-catenin is regulated by modulating its degradation and nuclear translocation. In the absence of an activating signal, phosphorylation of beta-catenin by glycogen synthase kinase 3 (GSK3) acting in conjunction with adenomatous polyposis coli and **axin / conductin** causes beta-catenin to interact with the beta-transducin repeat-containing protein which results in its ubiquitination and degradation. Signaling from the wnt pathway activates dishevelled which, in an as yet undefined manner, inhibits the activity of GSK3 resulting in an increase in the cytoplasmic free pool of beta-catenin, and translocation into the nucleus. The integrin-linked kinase (ILK) pathway also activates beta-catenin-Lef/Tcf signaling. ILK phosphorylates GSK3 to inhibit its activity and translocates beta-catenin into the nucleus. In addition, ILK downregulates the expression of E-cadherin and upregulates Lef-1 expression. In the final step of the beta-catenin-Lef/Tcf signaling pathway, nuclear beta-catenin binds pontin52-TATA binding protein and displaces Groucho-related gene or CREB-binding protein corepressors from Lef/ Tcf resulting in stimulation of transcription. During development, beta-catenin-Lef/Tcf signaling is involved in the formation of dorsal mesoderm and dorsal axis. Furthermore, defects in the beta-catenin-Lef/Tcf pathway are involved in the development of several types of cancers.

DESCRIPTORS:
MAJOR CONCEPTS: Cell Biology
BIOSYSTEMATIC NAMES: Vertebrata--Chordata, Animalia
ORGANISMS: vertebrate (Vertebrata)--animal model
COMMON TAXONOMIC TERMS: Animals; Chordates; Nonhuman Vertebrates; Vertebrates
CHEMICALS & BIOCHEMICALS: **beta-catenin** --cell membrane signaling; lymphoid enhancer factor-T-cell factor--cell membrane signaling
CONCEPT CODES:
02506 Cytology - Animal
10064 Biochemistry studies - Proteins, peptides and amino acids
10508 Biophysics - Membrane phenomena
13012 Metabolism - Proteins, peptides and amino acids
15008 Blood - Lymphatic tissue and reticuloendothelial system
15004 Blood - Blood cell studies
13004 Metabolism - Carbohydrates
10068 Biochemistry studies - Carbohydrates
28002 Laboratory animals - General
BIOSYSTEMATIC CODES:
85150 Vertebrata
?

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| S5 | 1519299 | ((crystal) or (xtal) or (3D) or (xray) or (x-ray) or (NMR)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/03/20 11:03 |
| S6 | 982 | S5 and beta-catenin | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/03/20 11:09 |
| S7 | 17 | S6 and conductin | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/03/20 11:03 |
| S8 | 112 | S5 and beta-catenin.clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/03/20 11:09 |
| S9 | 4 | S8 and conductin | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/03/20 11:09 |

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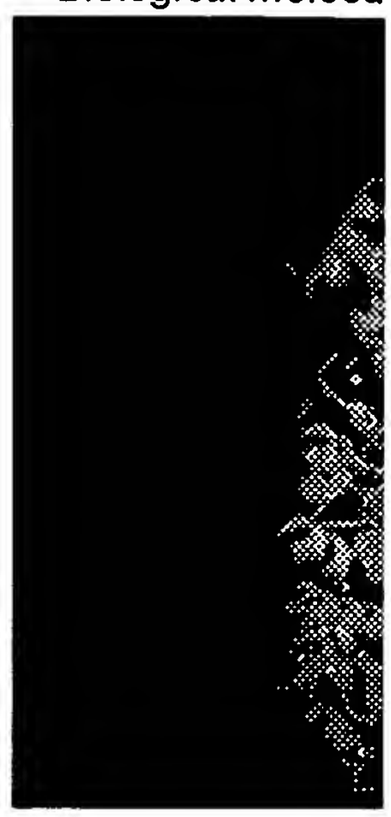

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***Title*** THE ARMADILLO REPEAT REGION FROM MURINE BETA-CATENIN

***Authors*** Huber, A.H., Nelson, W.J., Weis, W.I.

***Primary Citation*** **Huber, A.H.**, **Nelson, W.J.**, **Weis, W.I.** Three-dimensional structure of the armadillo repeat region of beta-catenin. *Cell v90 pp.871-882 , 1997*

[ Abstract ]

***History*** Deposition 1997-07-31 Release 1997-11-19

***Experimental Method*** Type X-RAY DIFFRACTION Data [ EDS ]

***Parameters***

| Resolution [Å] | R-Value | R-Free | Space Group |
|---|---|---|---|
| 2.10 | 0.229 (obs.) | 0.260 | C 2 2 $2_1$ |

***Unit Cell***

| | | | | | |
|---|---|---|---|---|---|
| **Length [Å]** | a | 64.10 | b | 102.00 | c 187.00 |
| **Angles [°]** | alpha | 90.00 | beta | 90.00 | gamma 90.00 |

***Molecular Description***

monomer (protein 470 residues)

***Asymmetric Unit***

Polymer: 1 Molecule: BETA-CATENIN Fragment: ARMADILLO REPEAT REGION Chains: _;

***Functional Class*** **Armadillo Repeat**

***Source*** Polymer: 1 Scientific Name: **Mus musculus** Common Name: M system: **Mus musculus**

***Chemical Component***

| Identifier | Name | Formula | Drug Similarit |
|---|---|---|---|
| URE | UREA | $C H_4 N_2 O$ | [ View ] |
| MSE | SELENOMETHIONINE | $C_5 H_{11} N O_2 Se$ | [ View ] |
| CL | CHLORIDE ION | $Cl^-$ | [ View ] |

***SCOP***

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***Title*** THE ARMADILLO REPEAT REGION FROM MURINE BETA-CATENIN

***Authors*** Huber, A.H., Nelson, W.J., Weis, W.I.

***Primary Citation*** **Huber, A.H., Nelson, W.J., Weis, W.I.** Three-dimensional structure of the armadillo repeat region of beta-catenin. *Cell v90 pp.871-882 , 1997*

[ Abstract ]

***History*** Deposition 1997-07-30 Release 1997-10-15

***Experimental Method*** Type X-RAY DIFFRACTION Data [ EDS ]

***Parameters***

| Resolution [Å] | R-Value | R-Free | Space Group |
|---|---|---|---|
| 2.90 | 0.211 (obs.) | 0.288 | P $2_1$ $2_1$ $2_1$ |

***Unit Cell***

| | | | | | | |
|---|---|---|---|---|---|---|
| **Length [Å]** | a | 51.09 | b | 75.59 | c | 134.42 |
| **Angles [°]** | alpha | 90.00 | beta | 90.00 | gamma | 90.00 |

***Molecular Description*** monomer (protein 516 residues)

***Asymmetric Unit*** Polymer: 1 Molecule: BETA-CATENIN Fragment: ARMADILLO REPEAT REGION Chains: _;

***Functional Class*** **Structural Protein**

***Source*** Polymer: 1 Scientific Name: **Mus musculus** Common Name: M system: **Mus musculus**

***SCOP Classification*** *(version 1.69)*

| Domain Info | Class | Fold | Superfamily | Family | Doma |
|---|---|---|---|---|---|
| d2bct__ | All alpha proteins | alpha-alpha superhelix | ARM repeat | Armadillo repeat | beta-Cater |

***CATH Classification*** *(version v2.6.0)*

| Domain | Class | Architecture | Topology |
|---|---|---|---|
| 2bct00 | Mainly Alpha | Horseshoe | Leucine-rich Repeat Varian |